

ABSTRACT

An ultrasound transducer assembly of the present invention includes a flexible circuit to which an ultrasound transducer array and integrated circuitry are attached during fabrication of the ultrasound transducer assembly. Integrated circuitry and transducer elements are attached to the flexible circuit while the flexible circuit is in a substantially flat shape. The contacts of the transducer elements are positioned on substantially the same plane such that electrical contact with signal and ground lines on the flexible circuit is established without the need for conductive bridges to physically remote electrodes. In an embodiment of the invention wherein the transducer elements are arranged in a cylindrical array, gaps are entirely filled with backing material having a relatively low acoustic impedance. Structure integrity is enhanced and a path to ground facilitated by electrically conductive disks attached to the ends of the transducer assembly.

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